

The Claims:



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The following is a complete listing of the claims pending in the application.

1. (Original) A method for forming a planarizing medium for planarizing a microelectronic substrate, comprising:

separating a planarizing medium material into discrete elements;
disposing the discrete elements and a film support material on a support liquid with portions of the discrete elements spaced apart from each other and projecting from the support material and with the discrete elements configured to engage the microelectronic substrate and remove material from the microelectronic substrate; and
drawing the support material and the discrete elements from the support liquid by engaging the support material with a backing material and moving the backing material away from the support liquid.

2. (Original) The method of claim 1 wherein the planarizing medium material includes a planarizing pad material, and wherein the method further comprises distributing a plurality of abrasive particles in the planarizing pad material before separating the planarizing pad material into discrete elements, and wherein the discrete elements include at least some of the abrasive particles in the discrete elements.

3. (Original) The method of claim 2 wherein the support material has a first surface and a second surface opposite the first surface, further comprising distributing the abrasive particles to occupy from about 1% to about 50% of a surface area of the first surface of the support material.

4. (Original) The method of claim 1, further comprising selecting the planarizing medium material to consist of abrasive elements.

5. (Original) The method of claim 1 wherein at least a portion of the planarizing medium material is in a liquid phase and separating the planarizing medium material includes mixing the planarizing medium material with a stream of gas and forming discrete droplets of the planarizing medium material.

6. (Original) The method of claim 1 wherein separating the planarizing medium material includes separating the planarizing medium material into droplets when the planarizing medium material is in a liquid state, and further comprising at least partially solidifying the droplets before disposing the droplets on the support material.

7. (Original) The method of claim 1, further comprising forming the discrete elements to have a maximum cross-sectional dimension of from approximately 5 microns to approximately 200 microns when the discrete elements are on the support material.

8. (Original) The method of claim 1, further comprising disposing the discrete elements on the surface of the support material to project from the surface of the support material by a distance of from about 2 microns to about 200 microns.

9. (Original) The method of claim 1, further comprising attaching the discrete elements and the support material after the discrete elements are disposed on the support material.

10. (Original) The method of claim 9 wherein attaching the discrete elements includes curing the discrete elements and changing a shape of the discrete elements to taper the discrete elements, with the discrete elements being wider at a point adjacent to the support material than at a point spaced apart from the support material.

11. (Original) The method of claim 1, further comprising selecting the planarizing medium material to include a thermoset or a thermoplastic material.

12. (Original) The method of claim 1, further comprising forming the discrete elements to have an upper surface spaced apart from the surface of the support material with the upper surface having blunt or rounded edges.

13. (Original) The method of claim 1, further comprising passing the discrete elements through an orifice toward the support material and moving at least one of the orifice and the support material relative to the other to distribute the discrete elements over the support material.

14. (Original) The method of claim 1, further comprising passing the discrete elements through apertures to control the distribution of the discrete elements on the support material.

15. (Original) The method of claim 1 wherein disposing the discrete elements on the support material includes dropping the discrete elements onto the support material from above.

16. (Original) The method of claim 1, further comprising at least partially curing the discrete elements before disposing the discrete elements on the support material.

17. (Original) The method of claim 1, further comprising distributing the discrete elements to have a first spacing in a first portion of the support material and a second spacing in a second portion of the support material with the first spacing different than the second spacing.

18. (Original) The method of claim 1 wherein disposing the discrete elements includes forming a jet comprising discrete elements and directing the jet toward the surface of the support material.

19. (Original) The method of claim 1, further comprising selecting the support material and the planarizing medium material to have the same chemical composition.

20. (Original) The method of claim 1, further comprising mixing the discrete elements with the film support material and disposing the discrete elements and the film support material on the support liquid together.

21. (Original) The method of claim 1, further comprising disposing the film support material on the support liquid, then disposing the discrete elements on the film support material.

22. (Original) The method of claim 1, further comprising buffing the discrete elements after attaching the discrete elements to the backing material.

23. (Original) The method of claim 1 wherein the film support material is sacrificial and wherein the method further comprises:

engaging the film support material with the backing layer;
attaching the discrete elements to the backing layer; and
removing the film support material after attaching the discrete elements to the backing layer.

24-54. (Cancelled)